

WHAT IS CLAIMED IS:

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1. A magnetic recording medium comprising:

an in-plane magnetic film used for recording, the in-plane magnetic film having a  
10 magnetization easy axis in an in-plane direction;  
and

a perpendicular magnetic film formed on said in-plane magnetic film, the perpendicular magnetic film having a magnetization easy axis  
15 oriented in a direction perpendicular to said magnetization easy axis of said in-plane magnetic film,

wherein a  $tBr$  of said perpendicular magnetic film is set so as not to exceed one-fifth  
20 of a  $tBr$  of said in-plane magnetic film at the maximum, where the  $tBr$  is the product of a thickness and a residual magnetization.

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2. The magnetic recording medium as claimed in claim 1, wherein said perpendicular magnetic film has a thickness not exceeding 5 nm at  
30 the maximum.

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3. The magnetic recording medium as claimed in claim 1, wherein an anisotropic magnetic field  $H_k$  of said perpendicular magnetic film is set

at least 1.2 times as large as an anisotropic magnetic field  $H_k$  of said in-plane magnetic film.

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4. The magnetic recording medium as claimed in claim 1, further comprising a nonmagnetic spacer provided between said in-plane magnetic film  
10 and said perpendicular magnetic film.

15 5. The magnetic recording medium as claimed in claim 4, wherein said nonmagnetic spacer has a thickness not exceeding 2 nm.

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6. The magnetic recording medium as claimed in claim 1, wherein said perpendicular magnetic film is formed of one of a Co-group alloy  
25 and a Co-group artificial lattice film.

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7. A magnetic recording and reproducing device including:

a magnetic recording medium comprising:  
an in-plane magnetic film used for  
recording, the in-plane magnetic film having a  
35 magnetization easy axis in an in-plane direction;  
and

a perpendicular magnetic film formed on

said in-plane magnetic film, the perpendicular magnetic film having a magnetization easy axis oriented in a direction perpendicular to said magnetization easy axis of said in-plane magnetic

5 film,

wherein a  $tBr$  of said perpendicular magnetic film is set so as not to exceed one-fifth of a  $tBr$  of said in-plane magnetic film at the maximum, where the  $tBr$  is the product of a thickness

10 and a residual magnetization.